Connections

Chapter 12

Connecting Your Satellite Receiver

What you'll find in this chapter:

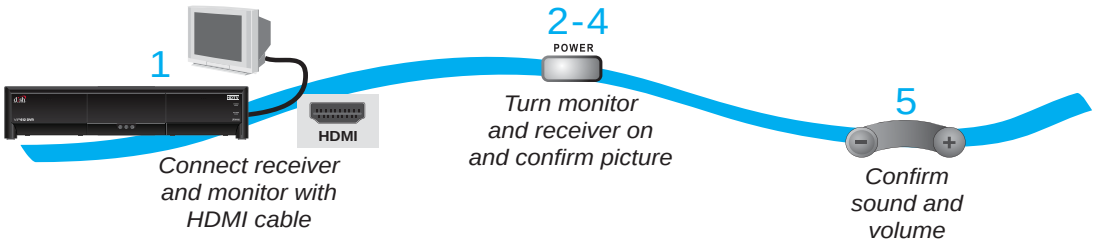
- CONNECTING TO THE TV
- CONNECTING TO YOUR DISH ANTENNA
- CONNECTING THE PHONE LINE
- CONNECTING A BROADBAND INTERNET CONNECTION
- CONNECTING AN OVER-THE-AIR ANTENNA
- SCANNING FOR OVER-THE-AIR CHANNELS
- USING TROUBLESHOOTING TOOLS

CONNECTING TO THE TV

High-Definition Connection: HDMI Cable

The **HDMI** (High-Definition Multimedia Interface) connection provides high-quality audio and video to your HDTV or HD Monitor using one cable. If your HDTV or monitor has an HDMI connection available, this is the recommended connection.

Note: Connecting your TV directly to the audio/video outputs of your receiver will assure a more vivid picture and enhance your viewing enjoyment.



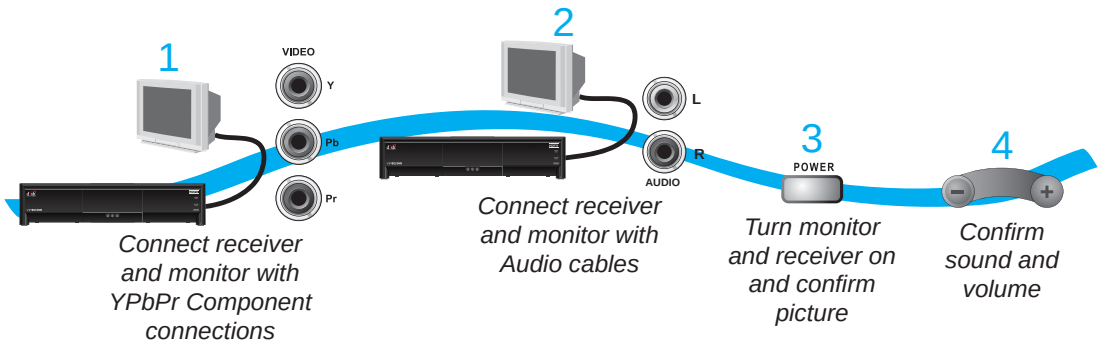
1. Connect an HDMI cable to the **HDMI** connection on the receiver.
2. Connect the other end of the HDMI cable to the HDMI input of the HDTV set or monitor.
3. Turn on your receiver and TV. Change your TV to the correct input or source. Consult your HDTV user's guide for assistance.
4. Confirm that you are getting a picture from the receiver.
5. If you do not see a picture, refer to *No Picture on the TV* on page 87.

   Note: In most cases connecting the HDMI cable provides plug-and-play control of the monitor's display resolution and other settings. However, your HDTV may require selecting a different format to display from the receiver during setup.

6. Turn up the volume on your HDTV and confirm you have sound. If you don't have sound, your system may require you to connect audio (red and white) RCA-type cables between the receiver's Audio Outputs and the TV's audio input connections.
7. Refer to *Setting Up to Display in HD* on page 88 to adjust the receiver's HD display settings to match your TV.

High-Definition Connection: YPBPR (Component) Cables

The **YPBPR** connections provide high-quality video to your HDTV or HD monitor. Use these connections if your TV does not have an HDMI connection.



1 Connect component video cables to the **YPBPR** (component) connections on the receiver. Connect the other end of the component video cables to the YPbPr (component) connections on the TV.

2 Connect audio (red and white) RCA-type cables between the receiver's Audio Outputs and TV's audio inputs.

3 Turn on your receiver and TV. Change your TV to the correct input or source. Consult your HDTV user's guide for assistance.

4 If you do not see a picture, refer to *No Picture on the TV,* below.

5 Turn up the volume on your HDTV and confirm you have sound.

6 Refer to *Setting Up to Display in HD* on page 88, to adjust the receiver's HD display settings to match your TV.

No Picture on the TV

This section helps you display a picture on your TV if you were not able to using the previous sections.

1 Connect RCA-type cables between the receiver's **COMPOSITE** (RCA-type) video output and your TV's Composite (RCA-type) input.

2 Verify the receiver and the TV are on.

3 Make sure the TV is set to the correct input for the RCA-type connection. Refer to your HDTV user's guide for assistance.

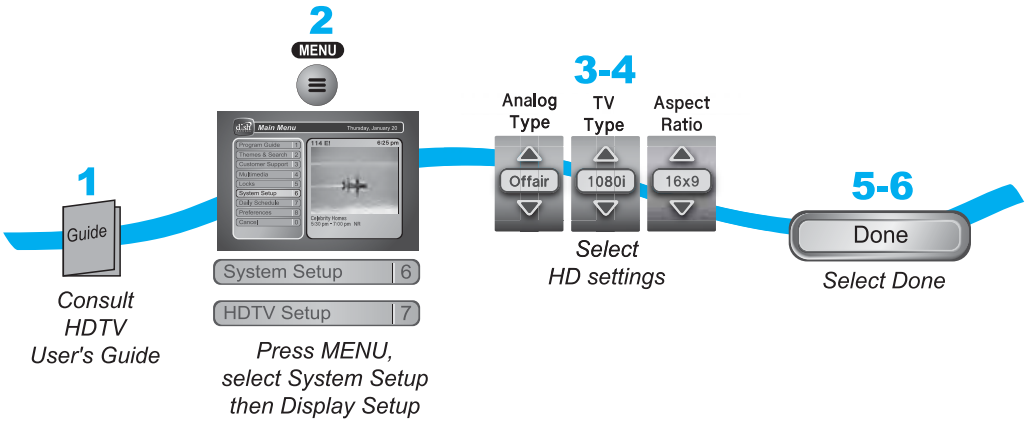
4 Change the HDTV settings to match your TV's display settings as described on page 88.

5 Change the TV to display from the HD input you connected in the previous sections. If you can see a picture, you are finished.

6 Repeat steps 4 and 5 until the TV displays video from the receiver.

Setting Up to Display in HD

Once the receiver has been activated with qualifying DISH Network HD programming, you will be able to receive HD programs. Use the following steps to select the HDTV display format that best matches your TV or monitor.



1 Consult your HDTV user's guide for the HD resolution that the TV supports (1080i or 720p).

2 Press MENU, select **System Setup**, then **HDTV Setup.**

3 Select the HD format settings (Analog Type and TV Type) that match the format supported by your TV, either 1080i or 720p.

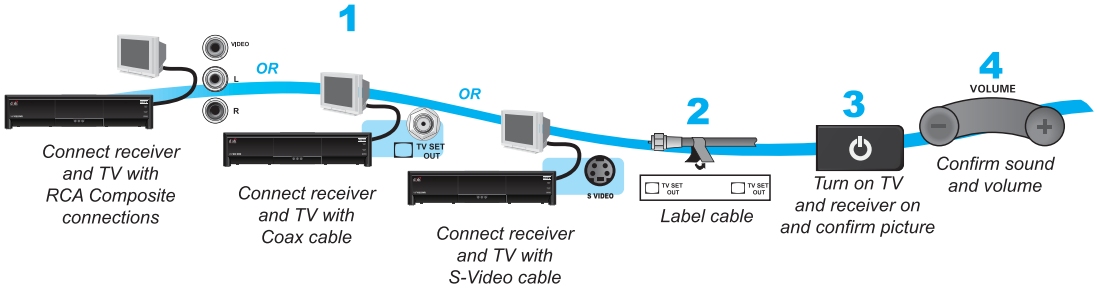
4 Select the Aspect Ratio that matches your TV type.

- 16x9 is the setting for wide-screen HDTV displays.
- 4x3 #1 is the setting to use on a 4x3 TV which uses vertical compression. When fed with a 16x9 program, a compatible TV automatically makes the picture letterbox format (black bars top and bottom) to preserve the correct horizontal and vertical proportions.
- 4x3 #2 is the setting to use on a 4x3 TV which does NOT have internal vertical compression. When fed with a 16x9 program, this type of TV will not show black bars at the top and bottom, and the picture will appear tall and skinny.

5 Select **Done**.

6 If required, set up the HDTV to display in the format that matches the receiver's settings. Some HDTVs will automatically adjust to the resolution setting of the receiver.

Standard-Definition Connections



1 Connect the receiver to the TV using one of the following:

- **AUDIO/VIDEO** connection (RCA-type composite connection)
- **S-VIDEO** and **LEFT/RIGHT AUDIO**
- **TV SET OUT**

2 If using the **TV SET OUT** connection, peel off the white sticker and attach it to the cable close to where it connects to the **TV SET OUT** connection on the back of the receiver. The sticker is in the front cover of this guide.

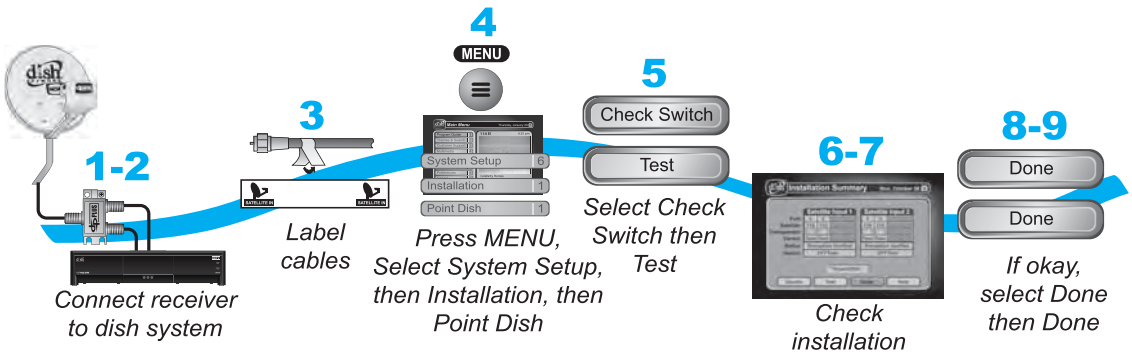
3 Turn on the TV and receiver to make sure you have a picture.

- If using the **TV SET OUT** connection, you'll need to set your TV to either channel 3 or 4. This output channel can be changed in the receiver's menus by pressing MENU on the remote control, selecting **System Setup**, **Installation**, then **Modulator Setup**. The default output is channel 3.
- If using the **S-VIDEO** or **AUDIO/VIDEO** connections, you'll need to set your TV to a video input or source. Refer to your TV's user guide for more information.

4 Turn up the volume on the TV to make sure you have audio.

CONNECTING TO YOUR DISH ANTENNA

Connect your TV to the satellite receiver using the previous sections before connecting the receiver to the dish antenna.



1 Connect two RG-6 coaxial cables between the **SATELLITE IN 1** and **SATELLITE IN 2** ports on the receiver's back panel and two available ports on either the switch, LNBF, or DISH Pro Plus Separator in your existing system.

Note: If you are installing your receiver in a system with DISH Pro or DISH Pro Plus LNBFs (and/or switches), you can have as much as 200 feet of cable between the LNBF and the receiver. You must use RG-6 coaxial cables rated up to at least 2150 MHz.

2 Peel off the blue stickers (found at the beginning of this *User's Guide*) and affix them to the cables near where they connect to the **SATELLITE IN 1** and **SATELLITE IN 2** connections on the back of the receiver.

3 On the remote control, press MENU, select **System Setup**, **Installation**, and then **Point Dish** to display the Point Dish screen on the TV.

4 Select **Check Switch** to go to the Installation Summary screen, then select **Test**.

5 The receiver begins performing the Check Switch test. When it is finished, the Installation Summary screen displays with the results of the test.

6 Verify that the information on the Installation Summary screen identifies your system correctly and shows all transponders for all satellites in your system.

7 Select **Done**.

8 Select **Done** to exit the Point Dish menu. If you receive a prompt that the receiver needs to download software, follow the on-screen instructions and do not disturb the receiver until the TV is displaying DISH Network video. The software download process usually takes between 15 and 30 minutes. If you do not receive the software download prompt, press VIEW LIVE TV. The receiver displays the "Acquiring Satellite Signal" message for a few minutes, then will display video.

CONNECTING THE PHONE LINE

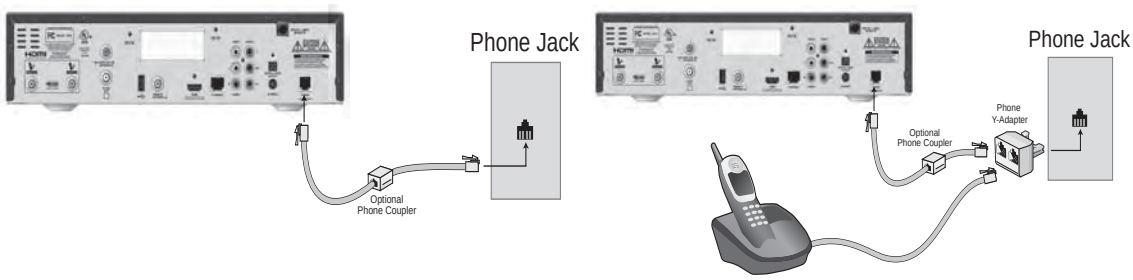
You must keep the receiver connected to an active telephone line to order Pay-Per-View programs, use all of the Dish**HOME** Interactive features, or use other services from DISH Network with your remote control.

Note: You may be able to use a wireless modem jack. However, this may not support all the features of this receiver, such as Caller ID. See www.dishnetwork.com for compatible modem products. If you have a Digital Subscriber Line (DSL), you may have to install a DSL filter between the receiver's back panel Phone Jack and the telephone wall jack to successfully connect with DISH Network. You can obtain a filter from your DSL provider.

Phone Line Connection

Connect a telephone cable with a standard RJ-11 connector between the receiver's back panel **PHONE** connection and an active telephone connection as shown below.

Note: Do not connect the phone line to the **ETHERNET** connection. If you accidentally connect the phone line to the **ETHERNET** port, all phones in your home may stop functioning.



Phone Connection Recommendations for VoIP

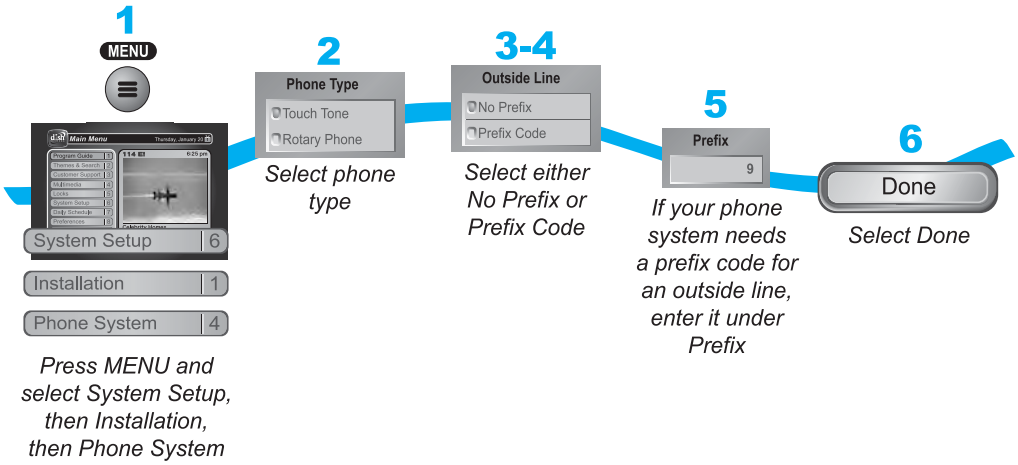
If you have a VoIP (Voice over Internet Protocol) phone service, the following tips may help improve the chances of the satellite receiver successfully connecting to DISH Network using the VoIP phone service.

Note: Not all VoIP services will function with the receiver.

- Manually set the VoIP equipment for the proper bandwidth, to the highest bandwidth possible, using the VoIP equipment's instructions.
- Use other settings or connections suitable for modems or fax machines.
- For Vonage VoIP customers only, using the phone prefix *99 in the phone systems setup can allow the VoIP connection to switch to its highest possible bandwidth. Follow the steps in *Phone System Setup*, below, to enter a phone prefix.

Phone System Setup

You must also set up the receiver for your telephone system (touch tone or rotary). If you need a prefix to make an outside call, set a telephone number prefix.



1 Press MENU on the remote control, then select **System Setup**, **Installation**, and then **Phone System**.

2 Select the **Touch Tone** or **Rotary Phone** option in the Phone Type list.

3 Select the **Prefix Code** option under Outside Line if you need to dial a prefix to make outside calls. Otherwise, leave this setting on **No Prefix**.

Note: Usually, you need a telephone number prefix only for business installations. For most residential installations, all you need to do is set the telephone system type. The default setting of No Prefix will allow correct dialing. If this is the case, select the **Save** option to save the above setting, and stop here. If you do need to set a prefix, then instead of selecting the **Save** option, go on to step 5.

4 If you selected **No Prefix**, select **Done**.

5 If you selected **Prefix Code**, the receiver highlights the box where you must enter the exact sequence you dial to reach an outside line.

6 Select **Done**.

Connecting a Broadband Internet Connection

If you have broadband (high-speed) Internet access at home, you can access additional features and capabilities by connecting your receiver to your home network. Refer to tech.dishnetwork.com and search for “home networking” for detailed instructions on making this type of connection.

Connecting an Over-the-Air Antenna

If you want to receive digital channels from an over-the-air antenna in addition to your satellite receiver programming, connect the over-the-air antenna to your satellite receiver.

- The **Over-the-Air Antenna In** connection on your receiver's back panel can be used to receive and view programming on the TV from an over-the-air antenna.
- Connect a VHF/UHF over-the-air antenna to the **Over-the-Air Antenna In** port. Peel off the black sticker (found at the beginning of this *User's Guide*) and affix it to the cable close to where it connects to the back of the receiver.
- You can add local over-the-air channels to the receiver's channels lists and assign them network affiliations. Once you have done this, you can access the channels via the Program Guide or the Browse Banner similar to accessing satellite channels.

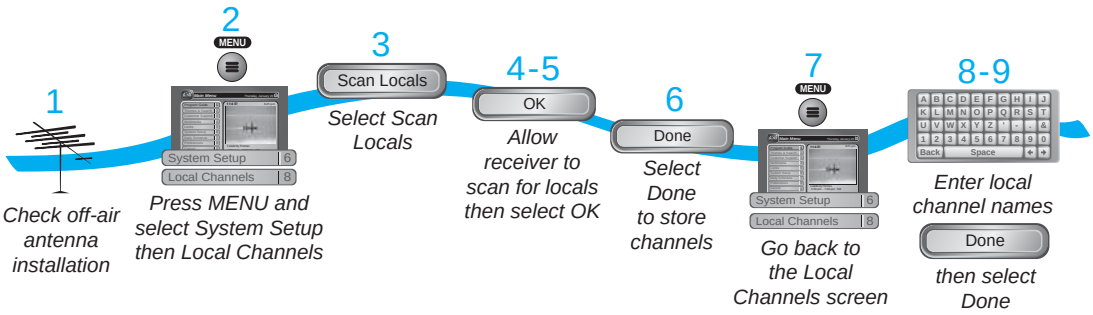
Note: The type of antenna required depends on the channels used by, and the locations of, the local broadcasters for your area. Visit www.antennaweb.org or contact a professional installer to help you select a suitable antenna.

Make sure to follow the antenna installation instructions correctly. Ground an outdoor antenna per the *National Electrical Code (NEC)* and any state and local electrical codes.

The audio/video quality on local over-the-air channels depends on the distance and terrain between the broadcast station and your home, and on the placement and quality of the over-the-air TV antenna you use. If you have questions about over-the-air channels, contact the broadcaster, not DISH Network.

SCANNING FOR OVER-THE-AIR CHANNELS

After your over-the-air antenna is adjusted for the best reception and connected to the receiver's **OVER-THE-AIR ANTENNA IN** connection, use these instructions to scan over-the-air channels into the satellite receiver's menus.



1 Verify your over-the-air antenna is installed and connected to the receiver's **OVER-THE-AIR ANTENNA IN.**

2 On the remote control, press MENU, select **System Setup**, and then **Local Channels**. If this is the first time you have opened the Local Channels screen, it will have no channels listed.

3 Scan for channels by selecting **Scan Locals**.

4 The scan will take a few minutes to complete. When it finishes, the results will show how many channels the scan found. If you want to stop the scan before it is completed, select **Cancel**.

5 Select **OK** to go back to the Local Channels screen and view the list of channels.

Note: The ARROW at the bottom left means that there are more channels, off the bottom of the screen, which you can get to with the ARROW keys if you wish to edit their names or remove them.

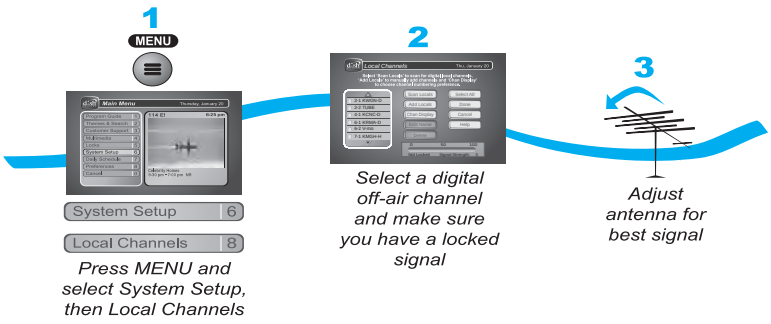
6 If you want to name the over-the-air channels, continue on. If you do not want to name your over-the-air channels, select **Done**. You will then be taken out of the menus back to watching TV.

7 Select a channel and then select **Edit Name** to modify the way the channel name displays on your screen. You can rename only one channel at a time.

8 Use the on-screen keyboard on the screen to select the letters of your channel name.

9 When you are finished making changes, select **Done**. The receiver displays a message while it is saving the changes. Be sure not to interrupt the receiver while it is saving the changes.

Peaking Your Over-the-Air Antenna


1
MENU
System Setup 6
Local Channels 8
Press MENU and select System Setup, then Local Channels
2
Select a digital off-air channel and make sure you have a locked signal
3
Adjust antenna for best signal

1 Press MENU, select **System Setup**, and then **Local Channels**.

2 Highlight a channel in the local channels list to display its signal strength. Make sure you see a green signal strength bar and a Locked indication on the signal meter.

3 Adjust the orientation of your antenna to maximize the signal strength. If you cannot get a Locked indication, you may need to upgrade your antenna or relocate it.

About Over-the-Air TV Broadcasts

Over-the-air TV signals are broadcast by local TV stations from a transmitter tower. You receive over-the-air TV signals using an indoor or outdoor antenna instead of the satellite dish. You are likely familiar with analog over-the-air TV signals - these are the signals that have been used to broadcast TV for many years. New digital over-the-air TV signals are broadcast and received in the same way. Digital over-the-air TV broadcasting uses advanced technology like that of the DISH Network to deliver superb picture quality and CD quality sound. However, digital over-the-air signal reception (like analog over-the-air signal reception) depends on several things.

- The distance between the broadcast station and your home (the farther away the station, the weaker the signal)
- The broadcast station's power (the lower the power, the weaker the signal)
- Obstacles between the station and your home, such as mountains, buildings, trees, or other objects (these may block or reflect the signal before it reaches you)
- Multiple broadcast stations (to receive good signals from several stations, you may need to compromise in how you aim the antenna or you may need more than one antenna)

The effects of poor digital reception are different from the effects of poor analog reception:

- Poor analog reception usually causes the TV picture to be “snowy” or to include “ghosts,” that is, multiple images caused by receiving reflected signals along with the direct signal from a station. Poor digital reception may cause the TV picture to be “pixelized,” that is, broken up into small squares of various colors, or to be lost completely (the TV screen is all black or all blue).
- Digital broadcasts often provide either a very good picture or no picture at all.

- You may be able to receive a poor analog signal but not be able to receive a digital signal at all.

To get the best possible digital signal reception, make sure you use the best over-the-air antenna for where you live:

- You can receive a limited number of channels using a rabbit ears type antenna on top of the TV set, or a much larger number via a large UHF/VHF indoor/outdoor antenna.
- The higher the quality of the antenna you use, the greater its range and the better its reception will be.

Digital OTA Broadcasts are Still Developing

- Broadcasters may still be testing digital signals and their strength, and may stop broadcasting without notice, vary power output, or turn it off.
- Some broadcasters do not yet have permanent transmitter tower.
- Broadcasters may choose to multicast, which allows them to provide multiple standard-definition channels in the same bandwidth used to provide a high-definition channel.
- These factors are outside of DISH Network's control.

Additional Installation Considerations

- Follow local and National Electric Code requirements for grounding the antenna.
- RG-6 coaxial cable is preferred for the **OVER THE AIR ANTENNA IN** connection. If you are diplexing the **OVER THE AIR ANTENNA IN** and **SATELLITE IN** cables, RG-6 coaxial cable must be used.
- You can not use a diplexer to combine the **OVER THE AIR ANTENNA IN** and **SATELLITE IN** cables if using an amplified antenna.

If you have questions about over-the-air channels, contact the broadcasters, not DISH Network. DISH Network does not broadcast over-the-air signals and so cannot do anything to change over-the-air signal quality. However, the receiver's digital channel setup menus provide a signal strength bar that can help you in aiming the over-the-air TV antenna for the strongest possible signal.

Additional Resources for Over-the-Air TV Broadcasts

For information on channel numbers, you can visit the National Association of Broadcasters (NAB) web page at www.nab.org.
Note: The receiver displays “Transmit Channel” which is referred to on the NAB web page as RF Channel. These terms mean the same thing.

Another good source of local channel information is available from the Consumer Electronics Association (CEA) web page at: www.antennaweb.org. This website provides recommendations for antenna types and pointing directions.

USING TROUBLESHOOTING TOOLS

Your receiver has troubleshooting tools that you can use to solve many common problems.

Resetting Your Receiver

1. Press and hold the receiver POWER button until the front panel lights blink.
2. Release the POWER button.

The receiver will take several minutes to reset, will display the message “Acquiring Satellite Signal”, may download the Program Guide, and then will return you to programming.

Diagnostics

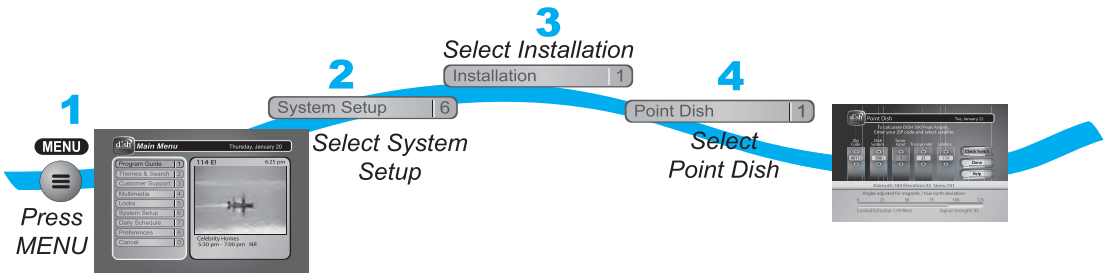
The Diagnostics screen allows you to check the phone and broadband Internet connection of your receiver.

1. Press MENU, select **System Setup**, then select **Diagnostics**.
   - Connection—Tests for a valid phone connection or broadband Internet connection.
   - Call Out—Updates the receiver’s smart card records. If “No Call Out Pending” is displayed, the receiver does not need to have its smart card records updated.
2. Select **Done** to exit the Diagnostics screen.

Point Dish and Check Switch

The Point Dish and Check Switch screens are helpful to the Customer Service Representatives. You may be asked to display these screens when you call DISH Network. Even though there are items that can be changed, only change them when specifically directed by a Customer Service Representative.

Warning: Running the Check Switch test while the receiver has low or no signal will result in incorrect receiver settings and cause you to lose channels. Do not run a Check Switch test unless directed to by a Customer Service Representative or other DISH Network instructions.



1 Press MENU.

2 Select **System Setup**.

3 Select **Installation**.

4 Select **Point Dish**. This screen shows you information to help maximize your satellite signal. The bar at the bottom of the screen tells you the signal strength. Green is a good signal, yellow is a marginal signal, and red indicates the signal is not acceptable or is from the wrong satellite.